MARKET FORCES: AN EXAMINATION OF THE AUSTRALIAN HEALTH CARE MARKET AND ITS IMPACT ON THE MEDICAL WORKFORCE

Authors: Jane Hall and Kees Van Gool
Centre For Health Economics Research and Evaluation, University of Sydney and Central Sydney Area Health Service

INTRODUCTION

The title of this session is 'The role of the market in the clinical workforce'. We have interpreted this to mean that we should examine the role of market forces and competition in the market for medical services and the impact of that on the medical workforce in Australia. In a perfectly competitive market, total expenditure, prices and quantities would be determined by the interplay of buyers' willingness to pay, and suppliers' cost functions. A perfect market is characterised by:

i. homogeneity of product;
ii. large numbers of buyers and sellers with no collusion;
iii. no barriers to entry;
iv. consumer sovereignty which requires that consumers have the ability to judge their own wellbeing, and hence their demand;
v. information available to both consumers and providers at no cost; and
vi. no externalities.

These conditions do not exist in the market for medical services and indeed are not met in any real marketplace. Therefore, there is little point in comparing a textbook ideal with a real situation and pointing out the problems.

How, then, might we characterise a medical market driven by market forces; or, in contrast, one that does not rely on market forces? The antithesis of a market economy is a planned or command economy. Decisions about total expenditure would be taken centrally, and then transmitted through the system as decisions about prices and quantities. This does not mean that every decision about what services are provided for whom is taken centrally, but rather that constraints are set at the central level and transmitted down to the next level, in which further decisions are taken. In an economy driven by market forces, decisions about supply and demand are made by independent actors in the system, and it is their interaction which determine prices, quantities and total expenditure. The key is that suppliers do not have the power to influence price or volume.

In any sector of the economy, the workforce market is secondary to the product market in that the demand for a product determines the market for labour in its production. As demand for a product increases, its price will rise. Producers will raise wages to attract labour, and hence workers will re-locate across sectors/industries. Similarly, any geographic maldistribution of the workforce should be resolved through price signals (though it is far from clear that this actually works in any labour market).

There are several characteristics of health care which lead to market failure (uncertainty, information asymmetry, and altruistic externalities). The existence of altruistic externalities is observed in that every developed country provides some free or subsidised health care for at least its most disadvantaged. Price mechanisms coupled with ability/willingness to pay are not allowed to ration the use of health care. Information asymmetry means that consumers and providers hold different information about the consumer's health status and ability to benefit from health care, and the consumer's value for improved health outcomes and other benefits of health care consumption. The consumer/patient relies on the doctor's advice, who is both agent and supplier. The provider is thus in a position to influence the consumer's demand for health care. This leads to the hypothesis of supplier induced demand, that is that doctors can influence the level of utilisation; and that, faced with the threat of falling incomes, they will increase the volume of services to protect their income.

Hence, it seems that the most policy relevant aspect for investigation is whether increasing numbers of suppliers leads to falling prices; and reduces any maldistribution of suppliers.

It is also worth noting some of the special characteristics of the medical labour force. First, the medical practitioner is both a labour input to and a producer of health care. Most medical practitioners are self-employed or working in partnerships. Even where doctors are salaried employees, their relationship with their employer is quite different to other employer/employee relationships. Doctors are highly regarded professionals, with strong loyalties to their professional groupings. In other words, employers have little success in telling them what to do.

Doctors have defended fiercely the notion of clinical autonomy over the years. For example, following the end of World War II the Commonwealth Government introduced a pharmaceutical benefit scheme which would meet the costs of doctor prescribed medicines, materials and appliances that were listed on the government's formulary. Doctors successfully challenged this plan on the basis that it would force doctors to use official forms for prescribing pharmaceuticals and thereby restrict their independence. Other examples of doctors defending their autonomy include the eradication of Friendly Society contracts and successful lobbying to prevent Governments' to supply health care directly and nationalisation schemes (1).

Medical practice is now highly specialised with limited substitution across medical specialty areas, as well as with non medical practitioner labour. The limitation of certain treatment to medical practitioners is reinforced by law; and thus creates substantial barriers to entry to the supply market. Professional bodies such as the Colleges, and the British Medical Association (later Australian Medical Association) have exerted strong control over the numbers of students allowed entry into medical schools, practitioners entering into and qualifying with post-graduate specialist training. In addition, since 1992 it has been government policy to restrict the number of overseas trained doctors to a permanent net entry of 200 per year (2).

In this paper, we focus (to the extent the data allow) on the relationship among prices, volumes, and numbers of providers. First, we look at the market for general practice medical services in terms of structure, pricing, trends in volume and total expenditure, and location of practitioners across rural and urban locations. Second, we consider the same issues for the specialist medical services market. Then we turn to the medical labour force market, and consider the numbers of providers and the relationship among supply and service volumes and prices. Finally, we offer some comments on the implications of this for access and costs, for a desirable medical workforce, and some new challenges posed by developments in Australian health system finance and organisation.

THE MARKET FOR GENERAL PRACTICE MEDICAL SERVICES

Structure

Primary medical care is predominantly fee for service, with most physicians being independent practitioners rather than salaried. Primary medical care is covered by Medicare and not by private health insurance. The Commonwealth Government through the Practice Incentive Program (PIP) has introduced alternative income sources. These take the form of direct payments for information management and technology ($7,000 per practitioner pa), after hours care ($6,000 pa), rurality (between $1,500 and $5,000 depending on remoteness) and targeted incentives such as the quality prescribing initiative ($1,000) (3). The PIP also incorporates the Immunise Australia initiative which rewards GPs for registering and immunising children as per the immunisation schedule. These types of payments are still a relatively small, although rising, proportion of practice income. In 1996, the Commonwealth Department of Health and Aged Care reported that the PIP payments constituted an average of 7.7% of Medicare Benefits paid to recipient practices (4). In 1999, the Department reported that this figure had risen to 8.8% (5).

Medicare reimburses 85 per cent of the scheduled fee for general practice services. Where the doctor direct bills the government (known as bulk billing in Australia), this is the maximum fee that can be charged. However, doctors who do not bulk bill are free to charge whatever price they choose and the patient must meet the difference out-of-pocket (there is no private health insurance coverage for this). Thus the Medicare schedule sets a floor price which limits any downward pressure on prices.

There are no apparent restrictions on patients' choice of general practitioner, on the number of visits initiated by patients, or the practitioners' choice of treatment, although the legislation does refer to reimbursement for medically necessary services. However, practitioner profiles are analysed by the Health Insurance Commission (which administers Medicare payments). Those practitioners with service patterns which deviate from the median substantially are counselled. In 1998–99, the Health Insurance Commission (HIC) counselled 556 general practitioners (GPs). Where, following counselling, a health service provider practice patterns are still causing concern, the HIC can refer cases to the Director of the Professional Services Review. In 1998-99, the HIC referred 9 GP cases. Over the HIC's history, 21 practitioners were found to be engaged in 'inappropriate practice'. These cases have resulted in repayments of $1.23 million and disqualification periods from Medicare ranging from 1 to 12 months (6).

Concern is also expressed about patients who engage in 'doctor-shopping'. The HIC defines a 'doctor-shopper' as a patient who in any one year sees 15 or more different GPs, has 30 or more Medicare consultations and obtains more Pharmaceutical Benefits System (PBS) prescriptions than is clinically necessary. In 1995-96, 13,240 people satisfied this criterion. By 1997-98 this figure had fallen to 9,515. The HIC, with the patient's permission, provides doctors with information such as the number of doctors seen, number of scripts and type of scripts (7).

In a drive to see efficiency gains in the GP sector, there has been a deliberate strategy to encourage the formation of larger group practices. The Report of the General Practice Strategy Review Group (3) found that a potential $100 million could be saved through restructuring GP practices and recommended that a program including practice amalgamation be implemented. The Commonwealth Government made available $20 million over two years for small practices to amalgamate into medium size practices. The scheme has now finished and indications are that over 850 GP have taken advantage of the program and that over 400 practices have amalgamated (8). A more recent phenomenon is the growth of corporatisation, through the acquisition of general practices by corporations who provide capital and management. This is market led as opposed to a deliberate government strategy, and by no means without concerns among the medical profession and policymakers.

Expenditure and volume

Since the advent of Medicare in 1984, expenditure on medical services, including general practice attendances, has been steadily rising. Table 1 shows the rise in Medical Benefits Schedule (MBS) non-referred attendances, ie general practice, overall expenditure and utilisation between 1984 and 2000. Note that the number of services has fallen slightly in the last few years.

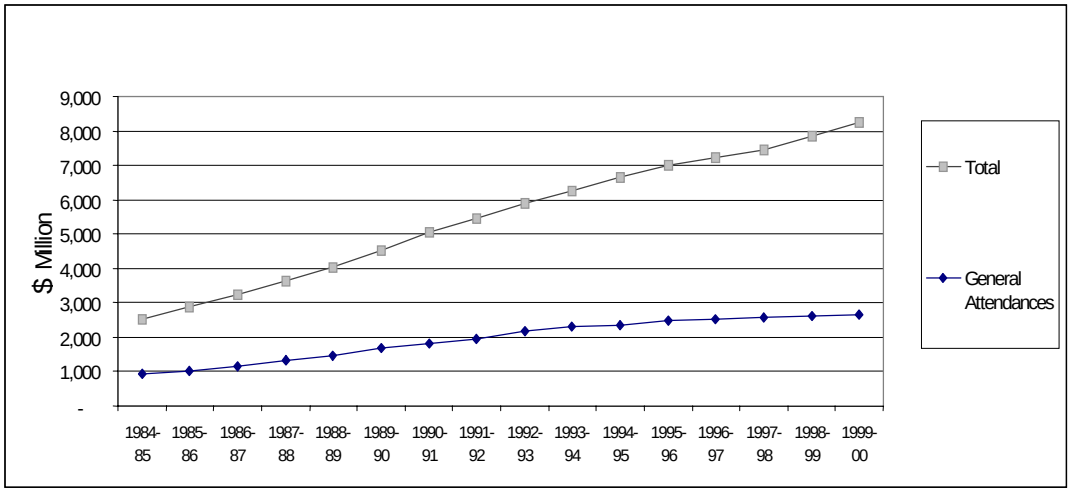
Table 1: MBS general practitioner total fees charged and number of services for non-referred attendances, Australia, 1984-85 to 1999-2000

	1984-85	1986-87	1988-89	1990-91	1992-93	1994-95	1996-97	1998-99	1999-00
Fees ($000)	919,336	1,143,333	1,482,266	1,798,279	2,163,239	2,361,989	2,517,817	2,605,026	2,675,303
Services (000)	64,807	71,404	80,072	84,851	93,071	98,478	102,529	102,552	101,517

Source: Commonwealth Department of Health and Aged Care (9)

Figure 1 shows that whilst overall expenditure on GP services rose, other MBS expenditure items rose at a faster rate.

Figure 1: MBS expenditure: total and general practice attendances, Australia, 1984 to 2000



Source: Commonwealth Department of Health and Aged Care (9)

Overall, the number of primary care visits per capita has also grown. Table 2 shows the gradual rise in the number of per capita non-referred attendances over the 1984 to 2000 period, with a slight fall in the last two years.

Table 2: MBS general practice per capita non-referred attendances, Australia, 1984-85 to 1999-2000

1984-85	1986-87	1988-89	1990-91	1992-93	1994-95	1996-97	1998-99	1999-2000
4.1	4.4	4.8	4.9	5.3	5.4	5.5	5.4	5.3

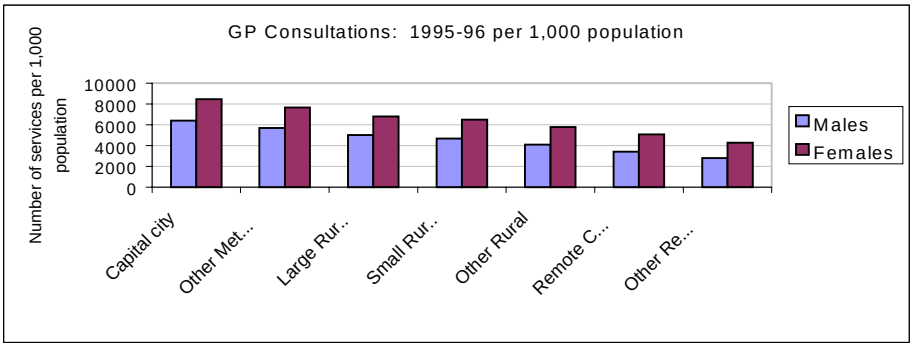
Source: Commonwealth Department of Health and Aged Care (9)

The proportion of services being bulk billed is an indication of price competition. In 1998-99, around 80% of all general practice attendances were bulk billed, compared with 52% in 1984-85. There is also non-price competition evident across general practice. This takes the form of the type of practice offices, range of consulting hours, availability of home visits, and type of services available such as female doctors, acupuncture, homoeopathy.

Variation by location

However, both the number of attendances and the rate of bulk billing vary by location. As shown in figure 2, there is close to a twofold difference in the number of visits between those living in capital cities and those in remote regions, whilst those in remote centres face the highest out of pocket costs for visiting their general practitioner (figure 2 and table 3).

Figure 2: GP consultations per 100,000 population, Australia, 1995-96



Source: Australian Institute of Health and Welfare (10)

Table 3: Average patient out-of-pocket costs for all services provided by non-specialist medical practitioners by region (current $au), Australia, 1984-85 to 1994-95

	Capital city	Other metro.	Large rural centre	Small rural centre	Other rural area	Remote centre	Other remote area
1984-85	1.35	1.27	1.59	1.51	1.44	2.51	1.36
1989-90	1.84	1.74	2.87	2.91	2.73	4.40	2.46
1994-95	1.42	1.68	2.94	2.83	2.83	4.94	2.63

Source: Commonwealth Department of Health and Family Services (4)

Similarly, the rate of bulk-billing also differentiates according to region with the highest rates found in metropolitan areas and the lowest rates in remote centres as shown in table 4. The rate of bulk-billing is a measure of competition amongst providers.

Table 4: General practice attendances bulk billed, Australia, 1997-98

Location	Capital city	Other metro	Large rural centre	Small rural centre	Other rural	Remote centre	Other remote
Per cent	85.6	79.6	60.2	59.4	58.7	56.8	74.0

Source: AMWAC and AIHW (11)

Constraints and competition

In principle, with no restrictions on maximum price or on quantity of visits, such a fee for service system represents an open ended financial commitment. However, the Commonwealth Government recently signed a Memorandum of Understanding with the Royal Australian College of General Practitioners, the Rural Doctors' Association of Australia and the Australian Divisions of General Practice. The agreement provides for a guaranteed minimum of MBS outlays for 'non referred items' of $7.67 billion over the 3-year life of the agreement (well below the current level); in return for the Commonwealth's agreement to increase the scheduled fee level, the doctor organisations agree to a review of

volumes and fee levels should total expenditure rise beyond certain thresholds (12). This should provide some capacity to cap total expenditure growth, but it remains to be seen how it will be implemented.

What then can we say of the extent of market forces in the primary care market? First, it does seem that there is some competition evident in the urban markets, both price and non-price. Second, the move to corporatisation is also evidence of competition promoting the search for economies of scale and scope. Other service industries have adopted specialisation of providers to meet market niches as well as specialised management and the organisational structure to support requirements for capital, particularly investments in information technology and insurance. Although market forces can exert downward pressure on prices, there is a definite floor price as defined by the Medicare rebate and total utilisation continues to grow. There remains a substantial gap in both prices and quantities between urban and rural/remote areas.

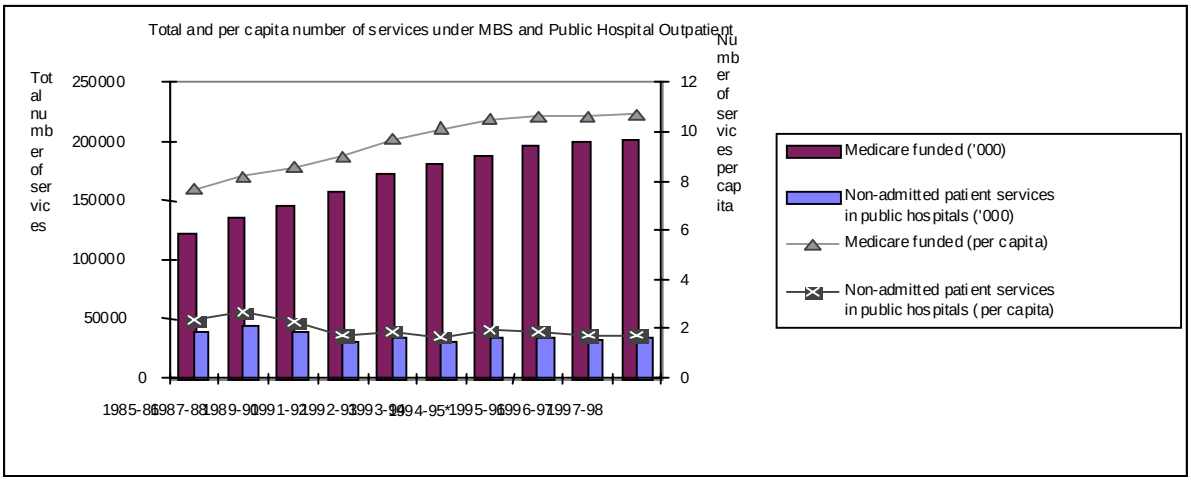
THE MARKET FOR SPECIALIST MEDICAL SERVICES

Structure

The role of general practice is secured through the Medicare arrangements and GPs act as gatekeepers to specialist medical care. In that sense, GPs are the customers of their specialist colleagues. We know little about what determines the referral patterns of GPs but we do know that the location of suitable hospitals and the length of waiting lists are not the most important factors. There is anecdotal but widespread evidence that relationships between GPs and specialists could be improved, with frequent complaints being the lack of information to the GP on discharge from hospital, and the tendency to keep patients under specialist follow up care.

The practice of specialist ambulatory medical care has changed enormously since the advent of Medicare, with public hospitals providing fewer outpatient clinics and most specialist care taking place in private offices under much the same arrangements as general practice care. Figure 3 shows the overall trend away from public hospital outpatient services and towards MBS services. These figures are an overall trend, not just specialists' services.

Figure 3: Specialists: total and per capita number of services MBS and public hospital outpatients, Australia, 1985-86 to 1997-98



Source: Commonwealth Department of Health and Aged Care, Butler and Australian Institute of Health and Welfare (9, 13, 14)

Most specialities still require access to hospital in-patient facilities. Medical specialists can then be classified into two major groups based on their relationship with public hospitals; visiting medical officers who are predominantly in fee for service private practice but are paid by public hospitals on a sessional basis for care of Medicare (public) patients; and staff specialists who are paid on salary by public hospitals but retain some rights to private, fee for service, practice. The role of private hospitals has been changing with both their relative use and the sophistication of the facilities increasing, so that a large proportion of visiting medical officers have admitting rights to public and private hospitals[1].

Ambulatory specialist medicine is based on fee for service and therefore also an open-ended budgetary commitment. Hospital based or reliant specialities have been subject to the budget constraints of public hospitals. In contrast to the open-ended nature of fee for service, total public hospital expenditure can be capped; and has been reducing its proportionate contribution to total health expenditure.

Most specialists remain independent practitioners, with the exception of radiology and pathology which have been consolidated into two or three major firms. It should not be surprising that these are the first two areas to be corporatised. Both require substantial capital for investment in new equipment, lend themselves to techniques of repeated (as opposed to mass) production. There is growing specialisation and sub-specialisation in medical practice. Indeed, this makes it difficult to discuss the specialist medical market as in fact there are several specialised markets. We have discussed these separately, as far as the data will allow.

[1] In one NSW Area Health Service 47% of visiting medical officers practising in public hospitals also had private hospital visiting rights. This proportion varies amongst the specialities with the lowest percentages found amongst accident and emergency staff and the highest levels amongst psychiatrists and surgeons (nearing 100%).

Expenditure and volume

The number of specialists' services and expenditure rose considerably and more than the rise in general practice attendances over the 1984 to 2000 period (see figure 1). According to MBS figures, total fees charged in current dollars rose by over 200% and utilisation rose by almost 70%. Table 5 shows the total fees charged by specialists and the total number of services under the MBS.

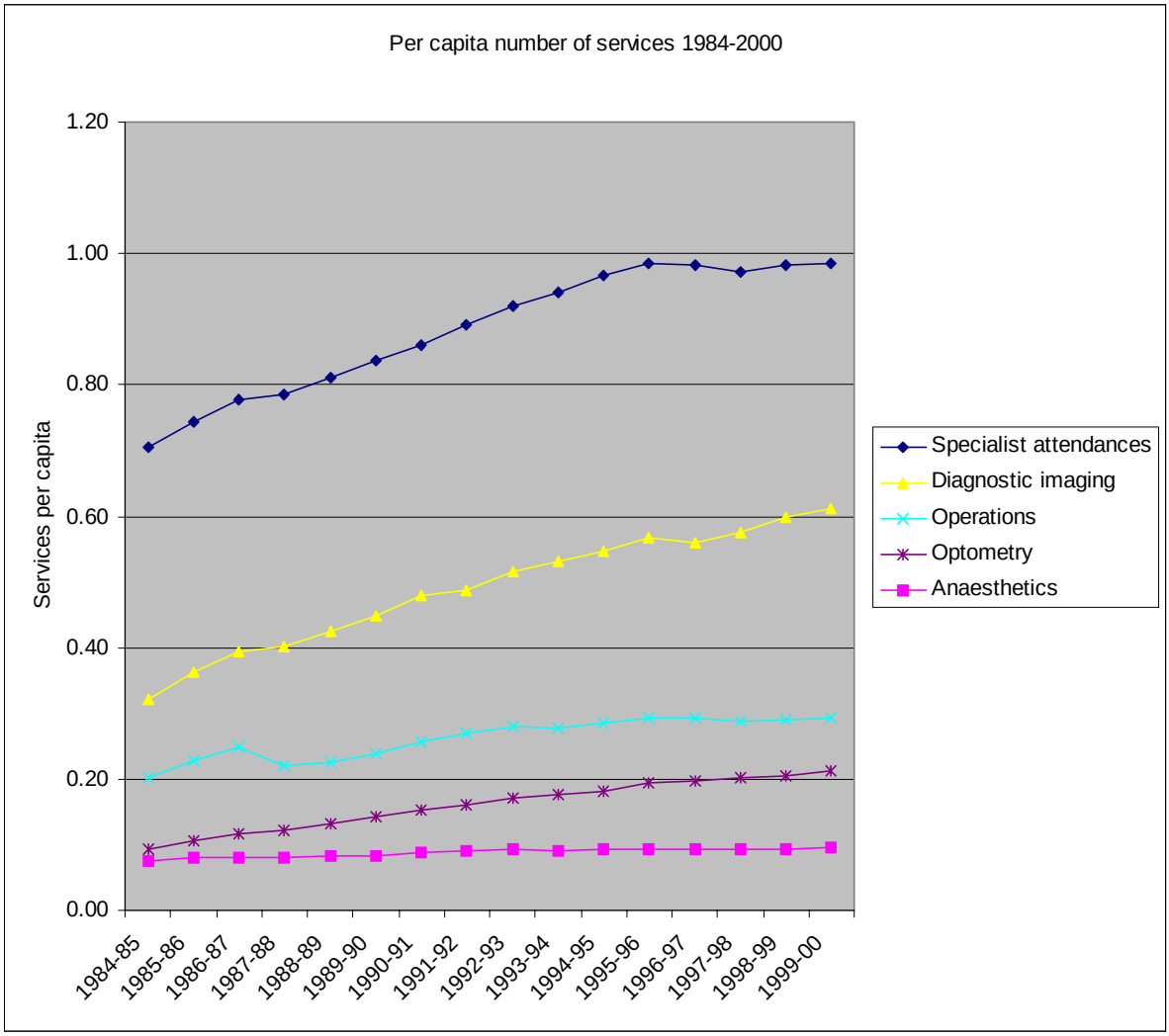
Table 5: MBS specialist fees charged and number of services provided, Australia, 1984-85 to 1999-2000

	1984-85	1986-87	1988-89	1990-91	1992-93	1994-95	1996-97	1998-99	1999-00
Fees charged ($000)	407.57	517.61	650.23	790.41	928.09	1,029.21	1,108.65	1,183.32	1,231.35
Number of services (000)	11,124	12,635	13,646	14,885	16,269	17,458	18,175	18,629	18,881

Source: Commonwealth Department of Health and Aged Care (9)

Across all specialties, the number of per capita services has also been steadily rising over the last 16 years. Figure 4 shows the rise in the number of per capita services billed through the MBS by various specialties. Only anaesthetics has seen a very steady number of per capita services. A number of other specialities saw significant rises in the early years following the introduction of Medicare funding but slower rates of increases in the later years. This reflects the move from public sector provision (uncharged attendances at public hospital outpatients) to private provision. Pathology services (not shown in figure 4) rose from 1.4 in 1984-85 to 3.1 per capita in 1999-2000, an increase of 121% in 16 years.

Figure 4: MBS specialist services, percentage of services bulk billed, Australia, 1984-85 to 1999-2000

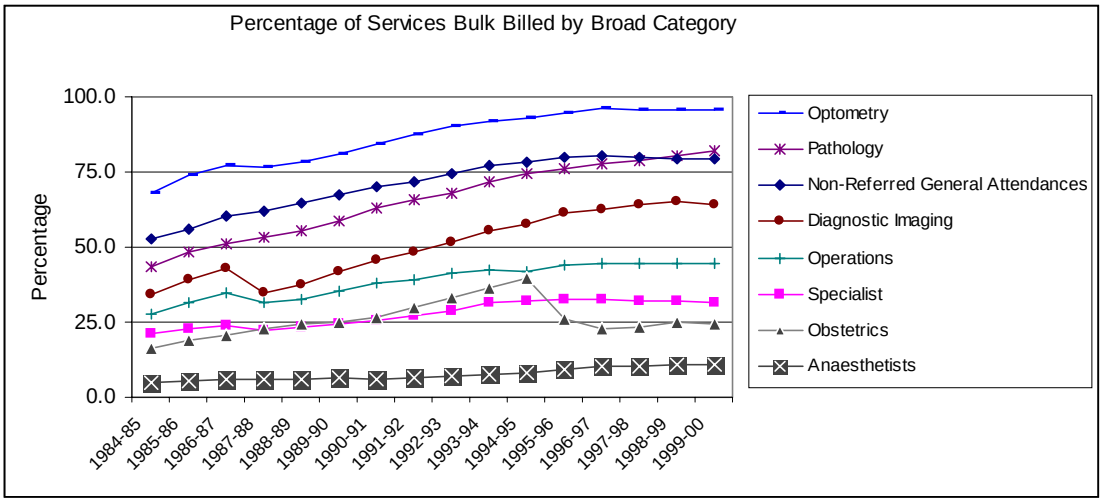


Source: Commonwealth Department of Health and Aged Care (9)

The rate of bulk billing varies by specialty as shown in figure 5 and is highest in optometry and pathology. One possible reason for the high bulk billing rate in optometry is the burgeoning number of eyewear dispensers and their corresponding link with optometrists. Hence, there was a significant increase in provider competition, with the expected result on price. Pathology represents a more homogeneous product than other areas of medical practice (a blood test is usually an automated test with no difference in equipment or technique); and the 'provider' does not come into face to face contact with the patient, so that personal interaction does differentiate providers.

Radiology also has a relatively high bulk-billing rate, and again price competition could be explained by more product homogeneity. Other specialties could be considered to have low bulk billing rates.

Figure 5: MBS specialist services: percentage of services bulk billed, Australia, 1984-85 to 1999-2000



Source: Commonwealth Department of Health and Aged Care (9)

Obstetrics presents an interesting case. The rate of bulk billing increased steadily until 1994-95, then dropped from 40% to 25%. This coincided with the introduction of a single fee covering ante-natal visits and delivery.

Variation by location

We have no data on how specialists divide their time, or earn their income, across public hospitals, private hospitals and ambulatory care (and overseas conferences). We do know that care of private patients is more lucrative than public patients. However, understanding the relative benefits of public and private work is more complex than considering remuneration levels. Public sector work may be important in retaining adequate networks to generate sufficient private referrals; and teaching hospital staff appointments carry a certain amount of prestige, as well as exposure through teaching to future referring medical practitioners.

There is evidence to show systematic differences in the treatment in hospital of privately insured patients and higher admission rates for the privately insured. In a recent study comparing certain procedure rates for public and private hospital patients, Robertson and Richardson (15) found that private hospital patients were significantly more likely to undergo angiography, angioplasty and bypass grafting. In a related article, Harper et al (16) found that the costs of performing angioplasty was higher in private hospitals. This result was exacerbated when charges (instead of actual resource use) were taken into account. The

authors found that the charges levied exceeded the costs by a factor of more than two. Professional fees formed a significant component of these charges (16).

There is widespread variation in the utilisation of specialists' services in regional Australia. In 1995-96, people living in 'large rural centres' used 20% fewer specialists' services than those living in 'capital cities'. For those living in 'remote centres' this variation was even larger with over 65% fewer services than their capital city counterparts (see table 6).

Table 6: Medicare utilisation rates for specialist, psychiatric and consultant visits per capita, Australia, 1995-96*

	Capital city	Other metro.	Large rural centre	Small rural centre	Rural other	Remote centre	Remote other
Males	0.9	0.8	0.7	0.7	0.5	0.3	0.3
Females	1.2	1.0	0.9	0.8	0.6	0.4	0.4

*age standardised to the Australian population at June 30 1991.

Source: Australian Institute of Health and Welfare (10)

Constraints and competition

The Commonwealth Government has put in place restrictions to limit the growth in pathology and radiology expenditures. For example, only the three most expensive pathology items are eligible for the MBS reimbursement in any patient episode. In addition, the Commonwealth Government and the Australian Association of Pathology Practices and the Royal College of Pathologists of Australasia have a Quality and Outlays Agreement which sets growth limit of 5% pa on average. This growth limit incorporates a volume and price component (17).

Similarly, an agreement between the Commonwealth and The Royal Australian and New Zealand College of Radiologists exists, restricting annual growth in outlays to an average of 6% pa over the 1998-2001 period. However, whilst the agreement also sets a maximum number of magnetic resonance imaging (MRI) scans, the Commonwealth absorbs the risk of the industry exceeding those targets.

As very sophisticated diagnostic imaging requires very specific equipment, the government also has the ability to influence the growth in services through controlling the import and licensing of equipment, and the payment of Medicare benefits. New equipment and procedures are provided in the public sector first, usually with some requirement for evaluation, before any benefits are provided for services provided in the private sector. Thus, for example, for Positron Emission Tomography, there is only one centre in Australia with the full capability. CT scanners were introduced first in public hospitals, before being licensed for private practitioners. Medicare benefits for MRIs are paid only for accredited practices. Australia has 4.5 MRI units per million population, compared with 7.6 in the US, 3.4 in the UK, and 1.8 in Canada (18).

There has been substantial growth in utilisation in pathology, specialist attendances and diagnostic imaging, with high, high and low bulk billing rates respectively. There has been very little growth in the utilisation of anaesthetics, where bulk billing rates remain very low. Modest growth in operations and optometry are associated with low and very high bulk billing rates respectively. There is no clear pattern of association between growth in the volume of services and the rate of bulk billing. The rates of bulk billing are evidence of competition in optometry, pathology and diagnostic imaging. In the latter two, the consolidation into a small number of provider firms was not a government intent seeking economies of scale; and can also be interpreted as evidence of competition.

THE MEDICAL LABOUR FORCE

The Australian Constitution expressly forbids the 'civil conscription' of medical and dental practitioners. The clause was introduced in the post World War II period, at the same time as the Commonwealth was granted powers to establish medical benefit and pharmaceutical benefit schemes. Although it is some time since it was tested through the court system, it serves as a reminder of the limits on non-market signals.

The number of medical practitioners

There were 24,176 GPs in 1998-99. This figure is comprised of 18,579 GPs (and GP trainees) and 5,597 'other medical practitioners' (19). This represents an increase of 43% since 1984 or a 20% increase net of population growth (20). The rise in GP numbers has slowed in more recent times with only a 12% increase in the last ten years or a 2% increase net of population growth over the same period (2).

The pattern is not uniform across Australia. The distribution of GPs in various parts of the country varies considerably. Figure 1 shows the number of GPs per 100,000 population by region. Whilst there has been growth in the number of GPs in all regions, in relative terms most rural and remote areas have fallen further behind their metropolitan counterparts.

Table 7: Full time equivalent GPs per 100,000 population, by geographic location, Australia, 1984-85 and 1999-2000

	Capital city	Other metro.	Large rural centre	Small rural centre	Other rural	Remote centre	Other remote
1984-85	71.07	73.91	65.92	67.07	52.47	43.14	29.23
1998-99	95.70	89.69	84.03	75.30	59.17	51.22	37.39

Source: Australian Institute of Health and Welfare (21)

Bulk billing rates also vary geographically, as shown in table 4 above, and hence with the practitioner:population ratio.

The number of specialist medical practitioners is now 17,774, a rise of 59% over the last ten-year period. Taking into account the population increase, the number of specialists per 100,000 population rose from 65.5 in 1989/90 to 93.7 in 1998-99 (18) and (16). Other data though not commensurable suggests that the major increase took place in the late 1980s

and early 1990s, ie coinciding with the increase in GPs and continuing. Specialists' net earnings, on average, are estimated to be around double those of GPs' (20).

While GPs are considered to be in over-supply, the supply of general surgeons is considered satisfactory and there is a continuing shortage of anaesthetists (see AMWAC reports 1996-2000). Benefits for optometry are payable to qualified optometrists as well as medical practitioners, therefore the optometry workforce is quite different to the other specialties. This structural difference is suggestive of more competition. For pathology, technological developments in automated testing rather than numbers of providers may be the major source of competition.

Table 8 shows that the number of specialists per capita varies by rurality. This is a poor measure of access as it does not capture the number of capital city based specialists who run outreach programs. Nonetheless, it indicates some maldistribution.

Table 8: Specialists per 100,000 population, by geographic location, Australia, 1994-95 to 1998-99

	Capital city	Other metro.	Large rural centre	Small rural centre	Other rural centre	Remote centre	Total
1998-99	117.6	87.7	110.1	55.0	12.4	14.3	93.7
1997-98	114.7	84.4	110.3	53.5	11.2	15.4	91.4
1996-97	112.6	82.8	110.2	50.5	10.3	12.3	89.6
1995-96	110.6	80.3	106.9	49.7	9.3	11.2	87.6
1994-95	108.3	77.7	103.4	48.1	8.8	11.7	85.6

Note: assumes the proportion of people living in each region remained static in line with 1997-98 levels

Source: Australian Institute of Health and Welfare (2)

Influences on price and income

The Commonwealth has a major influence on price through its control of the MBS. Government sets the Medicare benefit payable and hence sets a floor price, as described earlier. The total price is the aggregate of MBS benefit and patient contribution.

Tables 9 and 10 show the average changes in the MBS fee, patient contribution, total average fee and per capita utilisation between 1984 and 2000 by speciality and for all medical services in constant 1989-90 dollars (AU$). Overall, whilst MBS fee fell by 8% in real terms, out of pocket expenses rose by 58%. Although the Commonwealth government has had considerable control over the MBS fee, in general the patient contribution has increased to offset the fall so that in real terms average fees have remained almost constant. However, utilisation has increased.

There are substantial differences across specialty areas. Anaesthetics and operations saw very large increases in the out of pocket expenditure for patients, with less than average increases in utilisation. Optometry and pathology had decreases in the patient contribution and the total fee, with large increases in utilisation. Diagnostic imaging had a small increase

in total fee, most of which came from the patient contribution, as well as a relatively high increase in utilisation.

Table 9: MBS: changes in fees, out-of pocket charges and utilisation, by specialty, Australia, 1984 to 2000

Change 1984 to 2000 in constant 1989-90 $	Non referred attendances	Specialist	Anaesthetic	Pathology
Increase in average MBS fee paid	$0.92 (5%)	-$5.25 (-11%)	-$7.02 (-10%)	-$7.80 (-34%)
Increase in average patient contribution	-$0.19 (-10%)	$4.79 (73%)	$37.66 (312%)	-$0.77 (-39%)
Increase in total average fee	$0.73 (3%)	-$0.46 (-1%)	$30.64 (38%)	-$8.57 (-34%)
Increase in per capita utilisation	1.18 (29%)	0.28 (40%)	0.02 (26%)	1.66 (118%)

Source: Commonwealth Department of Health and Aged Care (9)

Table 10: MBS: changes in fees, out-of pocket charges and utilisation, for all medical services, Australia, 1984 to 2000

Change 1984 to 2000 in constant 1989-90 $	Diagnostic imaging	Operations	Optometry	Total
Increase in average MBS fee paid	$3.42 (5%)	-$30.60 (-25%)	-$14.19 (-31%)	-$2.51 (- 8%)
Increase in average patient contribution	$3.48 (49%)	$34.60 (301%)	-$1.98 (-85%)	$1.84 (58%)
Increase in total average fee	$6.90 (9%)	$ 4.01 (3%)	-$16.18 (-34%)	-$0.67 (- 2%)
Increase in per capita utilisation	0.29 (90%)	0.09 (44%)	0.12 (126%)	3.76 (53%)

Source: Commonwealth Department of Health and Aged Care (9)

Tables 11 and 12 examine the overall impact on MBS expenditure by specialty between 1984 and 2000. The data show the overall increase in expenditure in real 1989-90 dollars and identifies the contribution of population growth, utilisation growth and real price increases. The percentages next to these dollar amounts indicates the proportion of overall increase explained by these factors. For example, overall expenditure on non-referred attendances rose by $838 million, 35% of this rise is explained through population growth, 56% through utilisation increases and 9% through price increases.

The figures show an overall increase of 82% ranging from 62% in GP expenditure and 151% for diagnostic imaging. The impact of the three factors of population, utilisation and price vary considerably amongst specialities. For example, the real price decrease for pathology

services would have decreased expenditure by $503.6 million, however because utilisation and population grew by more than the price decrease, overall expenditure still rose by 74%.

Table 11: MBS: changes in overall expenditure and reason for change by broad category, 1984 to 2000

Change 1984 to 2000 in constant 1989-90 $	Non-referred attendances	Specialist	Anaesthetic	Pathology
Overall expenditure	$838,407,470 (62%)	$408,748,326 (68%)	$107,575,745 (111%)	$408,535,063 (74%)
Change due to:				
Population increase	$291,239,654 (35%)	$129,116,787 (32%)	$ 20,838,042 (19%)	$119,015,510 (29%)
Utilisation increase	$473,457,760 (56%)	$288,225,288 (71%)	$ 30,478,077 (28%)	$793,153,736 (194%)
Price increase	$ 73,710,056 (9%)	-$ 8,593,749 (-2%)	$ 56,259,626 (52%)	$503,634,184 (-123%)

Source: Commonwealth Department of Health and Aged Care (9)

Table 12: MBS: changes in overall expenditure and reason for change, by broad category, Australia, 1984 to 2000

Change 1984 to 2000 in constant 1989-90 $	Diagnostic imaging	Operations	Optometry	Total
Overall expenditure	$618,538,686 (151%)	$347,936,879 (81%)	$ 57,457,642 (81%)	$3,025,911,696 (82%)
Change due to:				
Population increase	$ 88,474,401 (14%)	$ 92,808,136 (27%)	$ 15,282,434 (27%)	$ 799,809,776 (26%)
Utilisation increase	$449,051,074 (73%)	$232,590,336 (67%)	$108, 208,828 (188%)	$2,367,330,953 (78%)
Price increase	$ 81,013,211 (13%)	$ 22,538,408 (6%)	-$ 66,033,621 (-115%)	$ 141,229,033 (-5%)

Source: Commonwealth Department of Health and Aged Care (9)

Competition, prices and utilisation

Since the 1980s, there has been an increase in the medical labour force. The increase has been greatest in general practice, in absolute terms, but specialities have had proportionally similar increases. We have concluded there is evidence of competition in general practice, optometry, pathology and, to a lesser extent, in diagnostic imaging. In all of these specialities, prices have been depressed to the floor price set by the MBS schedule.

However, these competitive specialties have also experienced substantial increases in utilisation. In general practice, increased utilisation accounts for 56% of the growth in expenditure, or approximately $470 million. In optometry and pathology real prices have

fallen, but the increase in utilisation has been almost threefold. Anaesthetics shows the least evidence of competition. Real prices have increased by 52%, accounting for most of the expenditure increase. Specialist attendances and operations show a small or negative price change, with most of the growth in expenditure due to increased utilisation. This is consistent with the use of market power to first, increase prices, and where there is price competition, to increase utilisation.

It seems, then, that the medical market is relatively insulated from market forces. An increased total supply of providers has resulted in increased levels of utilisation, particularly in metropolitan areas, with no redress of the maldistribution across city and country. It is also worth noting that unemployment seems to be a non-issue for medical practitioners. Over 80% of registered medical practitioners are in the medical workforce, whereas for nurses around 30% remain in the profession. Law and medicine make an interesting comparison, both established professions, requiring academic performance in the top 2-3% of school leavers, vocational degrees but with further training required before the graduate can practise independently. We found articles for young lawyers on how to cope with being unemployed, but nothing similar for young doctors. Indeed, medical graduates are the only students to leave university with a guaranteed job. Perhaps this reinforces the attitude of 'the world owes me a living' and a resistance to market forces.

To return to our initial question: does increasing the supply of doctors decrease prices? Increasing supply is certainly associated with increasing use. Under some, but not all circumstances, an increase in supply has been associated with price competition but this has come with substantial increases in utilisation which outweigh the effect of price decreases. Further, most of that expenditure increase is met by the public sector. Falling prices decrease the patient contribution; conversely the exercise of market power to increase prices has been met by out of pocket costs falling on patients.

DISCUSSION

Implications for access and costs

Most Australians feel that they can get needed medical care, according to consumer surveys (see table 13). These results compare reasonably with similar countries.

Table 13: Percent of population reporting problems with access to care, selected countries, 1998

	Australia	Canada	NZ	UK	US
Time in last 12 months could not get needed medical care	8	10	12	10	14
Not difficult seeing specialists and consultants	54	47	56	55	56
Waiting times for non-emergency surgery less than one month	51	44	51	30	70

Source: Donelan et al. (22)

However, there are substantial differences between city and country in doctor:population ratios, in attendance rates and in out-of-pocket expenses. In short, those outside the capital cities have fewer doctors, see them less often and pay more when they do. The city country divide remains a major problem of access to medical care. To date, neither market signals nor government strategies have had much effect in addressing the maldistribution problem. Hence, the most recent strategies are attempting to influence the supply-side 'upstream', through encouraging rural students to enter medical school and to expose students to rural practice early in their medical school experience.

The issue of an adequate medical workforce to serve Aboriginal and Torres Strait Islander (ATSI) peoples remains the major access issue. ATSI populations experience substantially poorer health. These people are less likely to use medical care, and more likely to be admitted to hospital with advanced cases or complications of disease. As well as the problems of remote populations with inadequate social infrastructure, unemployment, urban poverty, there are issues around cultural appropriateness and sensitivity, dispossession and land rights, and removal of children from their families.

Australia has a universal health care system, with a high rate of bulk billing in general practice and the right to free treatment in a public hospital. This encourages most of us to think there are no financial barriers to access to needed medical care. However, in the same international survey 10% of Australians reported having problems paying medical bills in the previous twelve months. This compared with 5% of Canadians, 15% of New Zealanders, 3% of UK residents, and 18% of Americans. Although most specialists work in both the public and private sectors, this is not evenly distributed over specialties. Procedural specialists and psychiatrists are less likely to work in both sectors, for example. Therefore, there may be access problems due to financial barriers in specialties which work primarily in the private sector.

The desirable medical workforce

The Australian Medical Workforce Advisory Committee (AMWAC) describes the desired medical workforce as an adequate number of appropriately trained, highly qualified medical practitioners to meet the community's requirements through both the public and private sectors. The key question is on what basis the community's requirements should be judged. The planning process adopted by AMWAC uses international and national benchmarks (where available), the views of the medical profession and other stakeholders, and existing utilisation. Although workforce projections may be couched in terms of needs analysis, this is usually based on existing utilisation disaggregated by age and sex (possibly other explanatory variables) extrapolated to the projected population. Existing utilisation patterns do not question the appropriateness of current patterns of use.

The problem with equating existing utilisation with appropriate utilisation is threefold. First, technological and epidemiological changes may alter what should be considered appropriate. Second, utilisation is affected by payment mechanisms. Third, there are long standing and widespread unexplained variations in patterns of use across similar populations.

In contrast, in reasonably competitive markets the community's requirements are determined by consumers acting in their own interests and revealed through their willingness to pay. The difficulty is that such competitive markets cannot exist in health care. The substantial asymmetry of information means that consumers are unable to be the best judges of their own welfare and rely on providers' advice. The existence of insurance or other third party payment means that both consumers and providers will over-use, compared with the social optimum. In other words, reliance of market forces will not ensure the desirable medical workforce.

New challenges

In this section we consider how emerging changes in the health system will affect the medical workforce. There are two phenomena which we have identified; the increased role of private insurance, and funds pooling.

The proportion of the population covered by private health insurance dropped steadily since the early 1980s to a low of 30%. Under a determined government strategy to bolster the sector, population coverage has now reached over 40%. This will increase the consumer numbers in the private sector (and private patients use more services), thus increasingly the viability of private practice. This may exacerbate the maldistribution between public and private sectors and impact negatively on access for low socio-economic groups.

A corollary of increasing private health insurance is changing expectations of the role of the insurers. Insurers are obliged now to provide no-gap and known-gap policies, ie to negotiate agreed prices with private hospitals and providers. This is the first step in moving insurance funds from passive conduits of money to taking a more active role in managing health care expenditure. Insurers are not only looking at preferred provider contracts negotiated around price, but also at managed care, utilisation levels and quality of care.

More broadly, there is increasing interest in pooling of funds at a regional level to address the problem of divided responsibilities between states and commonwealth, and to provide more integrated and cost-effective care. Insurance funds are potential fund holders, but so are other agencies, such as state health departments or area health services. This is consistent with health are reforms in other countries; funds pooling is common to strategies whether they are described as budget holding or managed care. In fact, some form of funds pooling is the only substantive change on the reform agenda at the moment. The implications of funds pooling are that fund holders become purchasers who will need to negotiate both prices and volumes of services.

A prior condition for funds pooling is determining the level of funds to be contributed to the pool. This will force some consideration of appropriate levels of utilisation above the regional level.

CONCLUSIONS

The briefing note for this session implied a dichotomy between market forces and public planning. However, what ends up as total health expenditure is the result of a myriad of

independent decisions; the patient initiating a visit to a medical practitioner, the practitioner's decision to recall, to investigate, to refer, to institute treatment. In that sense, what we observe is a market. However, it is a market beset by failure well described as due to the special nature of the demand for health care, uncertainty, information asymmetry and altruistic externalities. Hence, we also observe widespread government intervention, even in countries which are considered to rely on market driven systems.

This gives rise to some special characteristics of the medical labour force which we have described as the professionalism and clinical autonomy of medical practitioners. The medical market place is marked by strong professional groupings, the existence of which can be seen as a response to market failure in that licensure and a professional code of ethics are a way of reassuring consumers their providers will not exploit them. But these professional groups act to protect and advance their members' interests, as well as guardians of professional standards. And this can be seen as another source of failure in the health care market. Maintaining barriers to the entry of new suppliers, prefering to raise prices rather volumes, are predictable outcomes in markets where suppliers have some monopolistic power.

Government intervention is not an alternative to the market but is more adequately explained as a response to market failure. Planners, therefore, should not abstract from the market but need to understand how it works.

We conclude from this analysis of the Australian health care system that in general medical providers do have substantial market power. Although the government is an effective price setter, providers will respond to controls in the MBS or floor price with higher prices most of which will be met through patient contributions. Moves to greater insurance coverage will focus third payers' attention on to total expenditure. In general practice and those specialities where there is price competition, there have been increasing levels of utilisation that more than outweigh the cost savings due to reduced prices. It is interesting to note the recent downturns in the number of GP attendances and speculate whether some natural limit has been reached. At this time, government strategies are focussing on provider numbers to control total expenditure in the future. We anticipate that funders and planners will also have to address the difficult issues of appropriate levels of utilisation.

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